

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1.-22. (Cancelled)

Claim 23. (Currently Amended) A method of producing a video screen hologram for forming a projected video image thereon, said video screen hologram being formed as a holographic image of a real video screen by illuminating the real video screen with narrowband light to generate a hologram of the real video screen, said method comprising:

making a plurality of individual recordings by sequentially illuminating a plurality of different partial areas of the real video screen; and

forming a video screen hologram of the entire video screen by a composition of the individual recordings; wherein

illumination of the video screen is performed by guiding a scanning pulsed laser beam over the video screen; and

the video screen hologram is one of a contact hologram and an image plane hologram, whereby during reconstruction of said holographic image of a real video screen, said projected video image appears in a hologram plane of said video screen hologram.

Claim 24. (Previously Presented) The method according to Claim 23, wherein pulse duration of the scanning pulsed laser beam is dimensioned such that the movement of the laser beam over the video screen has substantially no effect on interference of the light waves in the hologram.

Claim 25. (Previously Presented) The method according to Claim 23, wherein each of the partial areas of the video screen has a size that corresponds to an image pixel.

Claim 26. (Previously Presented) The method according to Claim 23, wherein the lumination takes place by means of a pulsed diode-pumped solid-state continuous-wave laser.

Claim 27. (Previously Presented) The method according to Claim 23, further comprising performing a frequency conversion of said laser beam in one or several of the wavelength ranges red, green, blue.

Claims 28.-29. (Cancelled)

Claim 30. (Previously Presented) The method according to Claim 23, wherein a transmission hologram or a reflection hologram is produced.

Claim 31. (Previously Presented) The method according to Claim 23, wherein laser beams of a coherence length are generated which is greater than a difference between light paths of the object beam and the reference beam.

Claim 32. (Previously Presented) The method according to Claim 24, wherein a scanning rate and a pulse duration of scanning pulsed laser are mutually coordinated such that the movement of the laser beam during a pulse is smaller than $1/10$ of the wavelength.

Claim 33. (Previously Presented) The method according to Claim 23, wherein a repeated scanning of the video screen surface takes place by means of a respectively phase-shifted laser beam.

Claim 34. (Previously Presented) The method according to Claim 23, wherein distribution of the lumination in the hologram is measured to correct lumination in a subsequent lumination cycle.

Claim 35. (Previously Presented) The method according to Claim 23, wherein plural luminations are carried out with mutually perpendicularly polarized energy beams to produce two mutually independent screen images in the hologram.

Claims 36.-39. (Cancelled)

Claim 40. (Currently Amended) A video screen hologram for forming a projected video image therein, said video screen hologram comprising a holographic recording material in which a holographic image including optical characteristics of a real video screen is stored as a hologram, wherein:

the video screen hologram comprises a plurality of individual recordings, in each of which a different partial area of the real video screen is imaged as a hologram, an entire image of the whole video screen resulting from assembled or superimposed individual recordings;

the individual recordings are generated by sequentially illuminating said different partial areas of the video screen by means of a scanning pulsed laser beam;

the video screen hologram is one of a contact hologram and an image plane hologram, whereby during reconstruction of said holographic image including optical characteristics of a real video screen, said projected video image appears ~~in a hologram plane of~~ as an image on said video screen hologram in a hologram plane thereof.

Claims 41.-42. (Cancelled)

Claim 43. (Currently Amended) A video screen hologram for forming a projected video image therein, said video screen hologram comprising a holographic recording material in which a holographic image including optical characteristics of a real video screen is stored as a hologram, wherein:

the video screen hologram comprises a plurality of individual recordings, each of which contains a holographic image of a different partial area of the real video screen;

an entire image of the whole video screen is formed from assembled or superimposed individual recordings; and

[[a]] the video screen hologram is one of a contact hologram and an image plane hologram, whereby during reconstruction of said holographic image including optical characteristics of a real video screen, said projected video image appears ~~in a hologram plane of~~ as an image on said video screen hologram in a hologram plane thereof.

Claim 44. (Currently Amended) A method of generating a video screen hologram, comprising:

illuminating a real video screen with narrow band light by successively illuminating different partial areas of the real video screen;

recording a plurality of individual holographic images in a recording medium, each of which covers only a single one of said different partial [[area]] areas of the real video screen, said individual holographic images collectively covering the entire real video screen; and

forming a composite of said individually recorded holographic images to generate a video screen hologram of the entire real video screen;

wherein illumination of the video screen is performed using a scanning pulsed laser beam.

Claims 45.-46. (Cancelled)

Claim 47. (Previously Presented) The method according to Claim 23, wherein optical characteristics of said real video screen are stored in said video screen hologram.

Claim 48. (New) A method of displaying a video image, comprising:

recording a holographic image of a physical object comprising the entirety of a video projection screen, in a holographic recording medium, to create a hologram;

reconstructing said recorded holographic image from said hologram to form a visually observable representation of said video projection screen;

projecting said video image onto the visually observable representation of said video projection screen, whereby said video image appears to be projected onto said video projection screen;

wherein said hologram comprises a composition of holographic images of a plurality of different partial areas of said video projection screen, which partial areas collectively comprise substantially the entirety of the video projection screen.

Claim 49. (New) Video image display apparatus, comprising:

a hologram having stored therein a holographic image of a physical object comprising the entirety of a video projection screen;

means for reconstructing said holographic image of said video projection screen to form a visually observable representation thereof; and

means for projecting said video image onto said visually observable representation, whereby said video image appears to be projected onto said video projection screen;

wherein said hologram comprises a composition of holographic images of a plurality of different partial areas of said video projection screen, which partial areas collectively comprise substantially the entirety of the video projection screen.